

AMENDMENTS TO THE CLAIMS

1. – 54. (Canceled)

55. (New) A catheter for directing the flow of blood through a patient, said catheter comprising:

a catheter body having a proximal end, a distal end, a lumen extending between said distal end and said proximal end adapted to fluidly communicate with the patient;

a redirecting tip positioned at the distal end, the redirecting tip comprising at least one outlet in a side of the lumen and an internal flow redirecting surface extending from adjacent to a central longitudinal axis of the lumen to a distal portion of the outlet, the redirecting surface having a curved profile extending between a proximal point at the central longitudinal axis and a distal point, positioned substantially axially away from the proximal point, the distal point defined by an apex located between the longitudinal axis and the outlet, the redirecting surface being configured to redirect substantially all of the blood flow exiting said lumen in a direction generally opposite of the direction of flow in the lumen.

56. (New) The catheter of Claim 55, wherein the flow redirecting surface comprises a three dimensional shape defined by rotating the curved profile about the central longitudinal axis.

57. (New) The catheter of Claim 55, wherein the flow redirecting surface substantially prevents blood from flowing beyond the surface in the lumen in which the surface is positioned.

58. (New) The catheter of Claim 55, wherein the lumen in which the flow redirecting surface is positioned has a closed distal end.

59. (New) The catheter of Claim 55 wherein the redirecting tip comprises a distal end having a generally hemispherical shape.

60. (New) The catheter of Claim 55, wherein the redirecting tip comprises a distal end having a generally parabolic profile.

61. (New) The catheter of Claim 55, further comprising a plurality of outlets in the side of the lumen wherein the surface is located.

62. (New) The catheter of Claim 61, where at least three outlets are provided in a side of the lumen wherein the surface is located.

63. (New) The catheter of Claim 61, wherein the outlets have a generally rectangular shape.

64. (New) The catheter of Claim 61, wherein a member extends between the catheter body and the redirecting tip between two adjacent outlets.

65. (New) The catheter of Claim 55, wherein the cross-sectional profile of the redirecting surface is substantially parabolic.

67. (New) The catheter of Claim 65 wherein the flow redirecting surface defines a generally parabolic curve rotated about the central longitudinal axis of the lumen.

66. (New) The catheter of Claim 55, further comprising a radiopaque marker.

68. (New) The catheter of Claim 55 further comprising at least one aperture positioned in the lumen distal from the proximal end so that the aperture may reside within the patient's vasculature and close to the point of insertion when the catheter is inserted into the patient so that the aperture may maintain or enhance perfusion of blood to the patient's vasculature downstream of where the aperture resides in the vasculature when the catheter is inserted into the patient for treatment.

69. (New) A method of using the catheter of Claim 55 comprising the step of directing the catheter through a patient's vasculature, thereby permitting a user to redirect blood with the redirecting tip.